

### **REMARKS**

Claims 1-14 and 16-30 are currently pending, of which claims 1, 19, 23-25, and 28 are independent. No new matter has been added. Applicant respectfully submits that all of the pending claims are in condition for allowance.

#### **I. Rejection of Claims 1-5, 7-14, and 16-27 under 35 U.S.C. § 103(a)**

Claims 1-5, 7-14, and 16-27 are rejected under 35 U.S.C. § 103(a) as being unpatentable over United States Patent Publication Number 2004/0034846 to Ortal (hereafter “Ortal”) in view of United States Patent Number 7,367,028 to Kodosky et al. (hereafter “Kodosky”) (Office Action, page 2). Applicant respectfully traverses the 35 U.S.C. § 103(a) rejection of claims 1-5, 7-14, and 16-27 as set forth below.

##### **A. Claim 1**

Independent claim 1 recites:

“In a graphical modeling environment, a method comprising:  
receiving a user request to define a parameter or a setting of a block in a simulatable block diagram model;  
*determining how defining the parameter or the setting of the block in the simulatable block diagram model according to the user request will alter code corresponding to the block, without generating code for the simulatable block diagram model;*  
based on the determining, generating a preview of code representative of the code corresponding to the block prior to generation of the code for the simulatable block diagram model, the code for the simulatable block diagram model being executable to simulate the simulatable block diagram model; and  
displaying the preview of the code on a graphical user interface.”  
[emphasis added]

Applicant respectfully submits that Ortal and Kodosky, alone or in any reasonable combination, fail to disclose or suggest at least the following feature of independent claim 1: “determining how defining the parameter or the setting of the block in the simulatable block diagram model according to the user request will alter code corresponding to the block, without generating code for the simulatable block diagram model.” This determination allows a user to

inspect the consequences in the code of defining the parameter or the setting, without having to go through the whole code generation process for the complete model which can be time-consuming and inefficient (Specification, page 3, lines 16-24).

Ortal provides a mechanism for modifying a UML model if the source code changes, and provides a mechanism for modifying the source code if the UML model changes (Ortal, paragraph 17).

However, Ortal does not disclose or suggest determining how defining a parameter or a setting of a block in a simulatable block diagram model will alter code corresponding to the block, without generating code for the simulatable block diagram model, as required by claim 1. In response to a user modifying a UML model element, Ortal *directly re-generates the source code* for the UML model (Ortal, paragraph 79). Ortal does not disclose or suggest *determining how the source code for the UML model will be altered, without actually generating the source code*. Ortal does not disclose or suggest that the Ortal system has the ability to determine how the source code will be altered, without actually generating the source code, as required by claim 1. As such, Ortal does not disclose or suggest “determining how defining the parameter or the setting of the block in the simulatable block diagram model according to the user request will alter code corresponding to the block, without generating code for the simulatable block diagram model,” as recited in claim 1.

The teachings of Kodosky do not supplement Ortal in such a way as to cure the failure of Ortal to disclose or suggest the above feature of claim 1.

Kodosky discusses configuration diagrams representing distributed systems (Kodosky, column 2). The configuration diagram may include device icons that represent devices in the system, store information associated with the devices, and display connections between the device icons (Kodosky, column 2). In one embodiment, a preview window may allow the user to view proposed changes to a configuration diagram prior to the change being committed or applied (Kodosky, column 6, lines 21-32).

However, Kodosky does not disclose or suggest determining how defining a parameter or a setting of a block in a simulatable block diagram model will alter code corresponding to the

block, without generating code for the simulatable block diagram model, as required by claim 1. Kodosky shows a configuration diagram will be altered in response to *changing the same configuration diagram*. That is, the preview in Kodosky shows the same representation that the user edited (the configuration diagram). However, Kodosky does not disclose or suggest determining how source code for a configuration diagram will be altered in response to *changing the configuration diagram*. That is, the preview in Kodosky does not show a different representation (source code for the configuration diagram) than the representation edited by the user (the configuration diagram). For example, the preview in Kodosky does not show code corresponding to a block in response to defining a parameter or setting of the block in a simulatable block diagram model, as required by claim 1. As such, Kodosky does not disclose or suggest “determining how defining the parameter or the setting of the block in the simulatable block diagram model according to the user request will alter code corresponding to the block, without generating code for the simulatable block diagram model,” as recited in claim 1.

As such, a combination of the teachings of Ortal and Kodosky will at most provide a preview of how user input in a block diagram will alter the block diagram. A combination of the teachings of Ortal and Kodosky will not provide a preview of how defining a parameter or setting of a block in a block diagram model will alter code corresponding to the block, as required by claim 1.

For at least the reasons set forth above, Ortal and Kodosky, alone or in any reasonable combination, fail to disclose or suggest each and every element of claim 1. Accordingly, Applicant respectfully requests the Examiner to reconsider and to withdraw the rejection of claim 1 under 35 U.S.C. § 103(a).

**B. Claims 2-5, 7-14, and 16-18**

Claims 2-5, 7-14, and 16-18 depend from claim 1 and, as such, incorporate each and every element of claim 1. Therefore claims 2-5, 7-14, and 16-18 are allowable for at least the same reasons discussed above for claim 1. Accordingly, Applicant respectfully requests the Examiner to reconsider and to withdraw the rejection of claims 2-5, 7-14, and 16-18 under U.S.C. § 103(a).

**C. Claim 19**

Independent claim 19 recites:

“In a graphical modeling environment, a method comprising:  
*determining how defining a parameter or a setting of a block in a simulatable block diagram model will alter code corresponding to the block, without generating code for the simulatable block diagram model;*  
based on the determining, automatically updating a preview of code representative of the code corresponding to the block in the simulatable block diagram model in response to a user altering the parameter or the setting of the block, the code being executable to simulate the simulatable block diagram model; and  
displaying the updated preview of the code on a graphical user interface.” [emphasis added]

Applicant respectfully submits that Ortal and Kodosky, alone or in any reasonable combination, fail to disclose or suggest at least the following feature of independent claim 19: “determining how defining a parameter or a setting of a block in a simulatable block diagram model will alter code corresponding to the block, without generating code for the simulatable block diagram model.”

As discussed above in connection with claim 1, a combination of Ortal and Kodosky does not disclose or suggest determining how defining a parameter or a setting of a block in a simulatable block diagram model will alter code corresponding to the block, without generating code for the simulatable block diagram model.

For at least the reasons set forth above, Ortal and Kodosky, alone or in any reasonable combination, fail to disclose or suggest each and every element of claim 19. Accordingly, Applicant respectfully requests the Examiner to reconsider and to withdraw the rejection of claim 19 under U.S.C. § 103(a).

**D. Claims 20-22**

Claims 20-22 depend from claim 19 and, as such, incorporate each and every element of claim 19. Therefore claims 20-22 are allowable for at least the same reasons discussed above for

claim 19. Accordingly, Applicant respectfully requests the Examiner to reconsider and to withdraw the rejection of claims 20-22 under U.S.C. § 103(a).

**E. Claim 23**

Independent claim 23 recites:

“A computer-readable storage medium for use with an electronic device having a processor, the medium storing instructions executable by the processor of the electronic device, the medium storing:

one or more instructions for receiving a user request to define a parameter or a setting of a block in a simulatable block diagram model;

***one or more instructions for determining how defining the parameter or the setting of the block in the simulatable block diagram model according to the user request will alter code corresponding to the block, without generating code for the simulatable block diagram model;***

one or more instructions for generating, based on the determining, a preview of code in response to the user request, the generating the preview occurring prior to generating the code for the block diagram model using an execution engine, the preview of the code representative of the code corresponding to the block, where the preview of the code is presented in a coding format that differs from a coding format of the code corresponding to the block; and

one or more instructions for displaying the preview of the code on a graphical user interface.” [emphasis added]

Applicant respectfully submits that Ortal and Kodosky, alone or in any reasonable combination, fail to disclose or suggest at least the following feature of independent claim 23: “one or more instructions for determining how defining the parameter or the setting of the block in the simulatable block diagram model according to the user request will alter code corresponding to the block, without generating code for the simulatable block diagram model.”

As discussed above in connection with claim 1, a combination of Ortal and Kodosky does not disclose or suggest determining how defining a parameter or a setting of a block in a simulatable block diagram model will alter code corresponding to the block, without generating code for the simulatable block diagram model.

For at least the reasons set forth above, Ortal and Kodosky, alone or in any reasonable combination, fail to disclose or suggest each and every element of claim 23. Accordingly,

Applicant respectfully requests the Examiner to reconsider and to withdraw the rejection of claim 23 under U.S.C. § 103(a).

**F. Claim 24**

Independent claim 24 recites:

“A computer-readable storage medium for use with an electronic device having a processor, the medium storing instructions executable by the processor of the electronic device, the medium storing:

*one or more instructions for determining how defining a parameter or a setting of a block in a simulatable block diagram model will alter code corresponding to the block, without generating code for the simulatable block diagram model;*

one or more instructions for automatically updating, based on the determining, a preview of code representative of the code corresponding to the block in the simulatable block diagram model in response to a user altering the parameter or the setting of the block, the code being executable to simulate the simulatable block diagram model; and

one or more instructions for displaying the updated preview of the code on a graphical user interface.” [emphasis added]

Applicant respectfully submits that Ortal and Kodosky, alone or in any reasonable combination, fail to disclose or suggest at least the following feature of independent claim 24: “one or more instructions for determining how defining a parameter or a setting of a block in a simulatable block diagram model will alter code corresponding to the block, without generating code for the simulatable block diagram model.”

As discussed above in connection with claim 1, a combination of Ortal and Kodosky does not disclose or suggest determining how defining a parameter or a setting of a block in a simulatable block diagram model will alter code corresponding to the block, without generating code for the simulatable block diagram model.

For at least the reasons set forth above, Ortal and Kodosky, alone or in any reasonable combination, fail to disclose or suggest each and every element of claim 24. Accordingly, Applicant respectfully requests the Examiner to reconsider and to withdraw the rejection of claim 24 under U.S.C. § 103(a).

**G. Claim 25**

Independent claim 25 recites:

“A system for generating and displaying a graphical programming application, comprising:  
    user-operable input means for inputting data to the graphical programming application;  
    a display device for displaying a simulatable block diagram model;  
and  
    an electronic device including memory for storing computer program instructions and data, and a processor for executing the stored computer program instructions, the computer program instructions including:  
        *instructions for determining how defining a property of a block in the simulatable block diagram model will alter code corresponding to the block, without generating code for the simulatable block diagram model, and*  
        instructions for providing, based on the determining, a code preview to a user on the display device, the code preview displaying a preview of code representative of the code corresponding to the block in the simulatable block diagram model after the user defines the property of the block using the user-operable input means, and the preview of the code being created by a predictor mechanism which emulates how the code appears when the code is generated by an execution engine.” [emphasis added]

Applicant respectfully submits that Ortal and Kodosky, alone or in any reasonable combination, fail to disclose or suggest at least the following feature of independent claim 25: “instructions for determining how defining a property of a block in the simulatable block diagram model will alter code corresponding to the block, without generating code for the simulatable block diagram model.”

As discussed above in connection with claim 1, a combination of Ortal and Kodosky does not disclose or suggest determining how defining a property of a block in a simulatable block diagram model will alter code corresponding to the block, without generating code for the simulatable block diagram model.

For at least the reasons set forth above, Ortal and Kodosky, alone or in any reasonable combination, fail to disclose or suggest each and every element of claim 25. Accordingly,

Applicant respectfully requests the Examiner to reconsider and to withdraw the rejection of claim 25 under U.S.C. § 103(a).

#### **H. Claims 26 and 27**

Claims 26 and 27 depend from claim 25 and, as such, incorporate each and every element of claim 25. Therefore claims 26 and 27 are allowable for at least the same reasons discussed above for claim 25. Accordingly, Applicant respectfully requests the Examiner to reconsider and to withdraw the rejection of claims 26 and 27 under U.S.C. § 103(a). .

#### **II. Rejection of Claims 28-30 under 35 U.S.C. § 103(a)**

In the Office Action, claims 28-30 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Ortal in view of Kodosky and further in view of United States Patent Number 7,086,046 to Barsness et al. (hereafter “Barsness”) (Office Action, page 13). Applicant respectfully traverses the 35 U.S.C. § 103(a) rejection of claims 28-30 as set forth below.

#### **A. Claim 28**

Independent claim 28 recites:

“A system for generating and displaying a graphical programming application, comprising:  
    user-operable input means for inputting data to the graphical programming application;  
    a display device for displaying a simulatable block diagram model;  
and  
    an electronic device including memory for storing computer program instructions and data, and a processor for executing the stored computer program instructions, the computer program instructions including instructions for:  
        receiving a first datum altering a setting of a first portion of the simulatable block diagram model,  
        *determining how altering the setting of the first portion of the simulatable block diagram model will alter code for the simulatable block diagram model, without generating the code for the simulatable block diagram model,*  
        in response to the first datum, generating, based on the determining, a preview of code representative of code for the first portion prior to generation of the code for the simulatable block diagram model,



receiving a second datum altering a setting of a second portion of the simulatable block diagram model, and  
in response to the second datum, automatically updating a portion of the preview of the code, the updated portion of the preview of the code being presented in a format that differs from an un-updated portion of the preview of the code.” [emphasis added]

Applicant respectfully submits that Ortal, Kodosky and Barsness, alone or in any reasonable combination, fail to disclose or suggest at least the following feature of independent claim 28: “determining how altering the setting of the first portion of the simulatable block diagram model will alter code for the simulatable block diagram model, without generating the code for the simulatable block diagram model.”

A combination of Ortal and Kodosky does not disclose or suggest determining how altering a setting of a portion of a simulatable block diagram model will alter code for the simulatable block diagram model, without generating code for the simulatable block diagram model, as required by claim 28.

The teachings of Barsness do not supplement Ortal and Kodosky in such a way as to cure the failure of Ortal and Kodosky to disclose or suggest the above feature of claim 28.

Barsness discusses displaying compiler optimized source code (Barsness, abstract). Initially, an optimized source code is generated for an original source code (Barsness, abstract). The optimized source code is displayed on an output device to visually indicate a change performed to the original source code in accordance to a compiler optimization (Barsness, abstract).

However, Barsness does not disclose or suggest “determining how altering the setting of the first portion of the simulatable block diagram model will alter code for the simulatable block diagram model, without generating the code for the simulatable block diagram model,” as recited in claim 28. Barsness contains no disclosure or suggestion on determining how altering a setting of a portion of a simulatable block diagram model will alter code for the simulatable block diagram model, as required by claim 28.

For at least the reasons set forth above, Ortal, Kodosky and Barsness, alone or in any reasonable combination, fail to disclose or suggest each and every element of claim 28. Accordingly, Applicant respectfully requests the Examiner to reconsider and to withdraw the rejection of claim 28 under U.S.C. § 103(a).

**B. Claims 29 and 30**

Claims 29 and 30 depend from claim 28 and, as such, incorporate each and every element of claim 28. Therefore claims 29 and 30 are allowable for at least the same reasons discussed above for claim 28. Accordingly, Applicant respectfully requests the Examiner to reconsider and to withdraw the rejection of claims 29 and 30 under U.S.C. § 103(a).

**III. Rejection of Claim 6 under 35 U.S.C. § 103(a)**

In the Office Action, claim 6 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Ortal in view of Kodosky and further in view of United States Patent Number 6,175,948 to Miller (hereafter “Miller”) (Office Action, page 16). Applicant respectfully traverses the 35 U.S.C. § 103(a) rejection of claim 6 as set forth below.

Claim 6 depends from and includes the features of claim 1.

Applicant respectfully submits that Ortal, Kodosky and Miller, alone or in any reasonable combination, fail to disclose or suggest “determining how defining the parameter or the setting of the block in the simulatable block diagram model according to the user request will alter code corresponding to the block, without generating code for the simulatable block diagram model,” as recited in independent claim 1, from which claim 6 depends.

A combination of Ortal and Kodosky does not disclose or suggest “determining how defining the parameter or the setting of the block in the simulatable block diagram model according to the user request will alter code corresponding to the block, without generating code for the simulatable block diagram model,” as recited in claim 6.

The teachings of Miller do not supplement Ortal and Kodosky in such a way as to cure the failure of Ortal and Kodosky to disclose or suggest the above feature of claim 6.

Miller relates to a waveform compiler method that employs top-down system decomposition coupled with component based design development (Miller, abstract). Miller discusses capturing user designs by generating parameterized models based on reusable components.

However, Miller does not disclose or suggest “determining how defining the parameter or the setting of the block in the simulatable block diagram model according to the user request will alter code corresponding to the block, without generating code for the simulatable block diagram model,” as recited in claim 6. Miller contains no disclosure or suggestion on determining how defining a parameter or a setting of a block in a simulatable block diagram model will alter code corresponding to the block, as required by claim 6.

For at least the reasons set forth above, Ortal, Kodosky and Miller, alone or in any reasonable combination, fail to disclose or suggest each and every element of claim 6. Accordingly, Applicant respectfully requests the Examiner to reconsider and to withdraw the rejection of claim 6 under U.S.C. § 103(a).

**CONCLUSION**

In view of the above remarks, Applicant believes the pending application is in condition for allowance and urges the Examiner to pass the claims to allowance. Should the Examiner feel that a teleconference would expedite the prosecution of this application, the Examiner is urged to contact the Applicant's attorney at (617) 227-7400.

Please charge any shortage or credit any overpayment of fees to our Deposit Account No. 12-0080, under Order No. MWS-081RCE2. In the event that a petition for an extension of time is required to be submitted herewith, and the requisite petition does not accompany this response, the undersigned hereby petitions under 37 C.F.R. § 1.136(a) for an extension of time for as many months as are required to render this submission timely. Any fee due is authorized to be charged to the aforementioned Deposit Account.

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